

The
Physician

in the

U.S. Public Health Service





Federal Security Agency

Public Health Service

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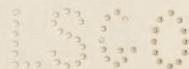
foreword

The Public Health Service has a proud record of achievement, gained through the unceasing efforts of the men and women who have served and are serving in its ranks.

A career in public health offers many opportunities for the physician, the medical student, and for all young men and women who seek rewarding futures in a growing field.

Oscar T. Ewing

Federal Security Administrator



What is the Commissioned Corps of the Public Health Service?



Established within the Public Health Service, the Commissioned Corps is composed of physicians, dentists, sanitary engineers, scientists, pharmacists, nurses, and others. They serve in 24 Marine Hospitals and 115 out-patient clinics; in 2 mental hospitals; and in quarantine stations in 150 ports. They also serve at the National Institutes of Health, Bethesda, Md., and its field stations, such as the Rocky Mountain Laboratory, Hamilton, Mont.; in the various Bureaus of the Public Health Service, Washington, D. C.; the Plague Control Laboratory at San Francisco, Calif.; the Communicable Disease Center, Atlanta, Ga.; in the 10 district offices covering the 48 States, Alaska, Hawaii, Puerto Rico, and the Virgin Islands; and in State and local health departments, schools of medicine and universities, working with tuberculosis, venereal disease, nervous and mental disease, nutrition, and other public health problems.

As the Nation's principal health agency, the Public Health Service assists other Government agencies by providing the services of experienced medical officers. Public Health Service medical officers are detailed to the Departments of Interior, of Justice, of Commerce, of Agriculture, of State and of National Defense; also to the Bureau of Employees Compensation and the Office of Vocational Re-



habilitation in the Federal Security Agency; the Coast Guard and the United States Maritime Commission. They serve also with the Pan American Sanitary Bureau. Foreign details include certain United States consulates and embassies. Medical officers are assigned to 23 foreign cities as medical examiners. Special assignments are made to foreign countries for study and consultation. Officers have recently been assigned, for example, to Bolivia, and to medical missions in Liberia, Greece and the Philippines.

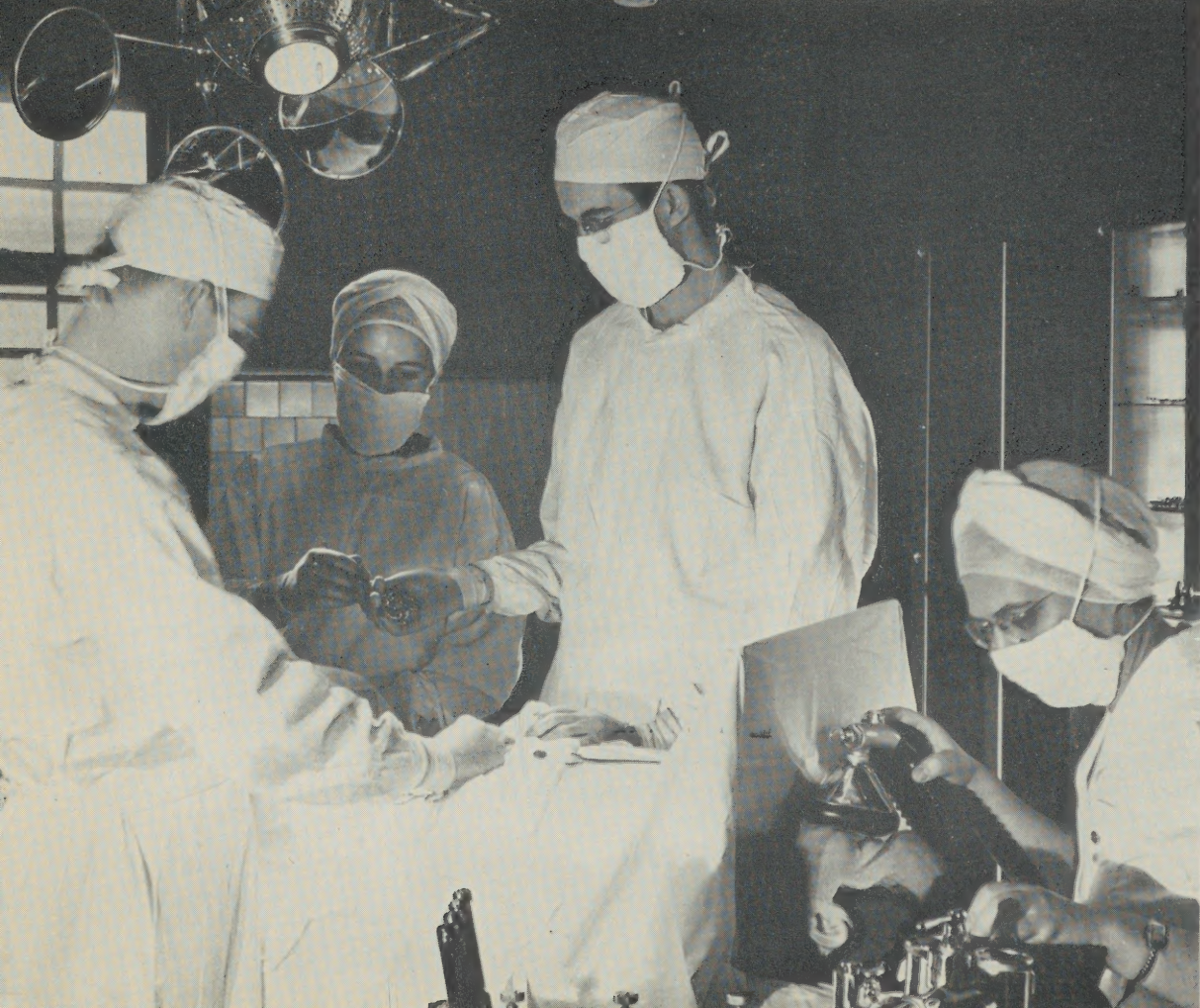
The Commissioned Corps is composed of a Regular and a Reserve Corps. The Reserve Corps was established for the purpose of securing a reserve of qualified officers for duty in time of national emergency. The expanding work of the Service, however, requires more personnel than are authorized for the Regular Corps, and a large number of Reserve Officers will be needed for active duty for some time to come. With few exceptions, Reserve Officers have the same status, privileges, obligations, and are subject to the same regulations as members of the Regular Corps.

At the head of the Service is the Surgeon General, appointed by the President of the United States with the consent of the Senate. He holds the same rank as the Surgeon General of the Army. The Deputy and Assistant

Surgeons General hold ranks equivalent to Army Major General or Brigadier Generals. Equivalent ranks of other commissioned officers are: Medical director—colonel; senior surgeon—lieutenant colonel; surgeon—major; senior assistant surgeon—captain; assistant surgeon—first lieutenant; and junior assistant surgeon—second lieutenant.

An act of Congress in 1798 created the Marine Hospital Service "for the relief of sick and disabled seamen." From this beginning, the Marine Hospital Service has grown until it is now the United States Public Health Service, with the prime duty of protecting and advancing the health, not only of the merchant marine, but of all citizens of the United States.

Functions of the Public Health Service are: to provide medical care, including hospitalization, for certain beneficiaries designated by law; to extend and improve State and local health services through leadership, technical and financial assistance; to protect the Nation from the introduction of dangerous communicable diseases from abroad; to prevent the spread of communicable diseases from State to State; to conduct research into cause, prevention, and cure of the diseases of mankind; to control the manufacture and sale of biologicals; and to disseminate public health information.



*What does
the Corps
offer the
young
Physician?*

The physician in the Commissioned Corps has the satisfaction of serving in a vigorous professional organization which is assisting States and communities in developing a modern nation-wide health program. Opportunities for advancement are afforded in three broad fields: Clinical medicine, research, and public health. Training is available to the physician either for certification by a recognized Specialty Board or for intensive training in public health, clinical practice or administration.

In addition to the activities outlined on pages 2 and 3, several new fields have been opened up in the Service by the passage of three legislative acts in 1946: the National Mental Health Act, which provides many opportunities for the physician interested in the study and treatment of mental illness; the Hospital Survey and Construction Act, which marks the beginning of the most comprehensive hospital program ever undertaken in this country; and the Federal Employees Health Act, with its program of preventive medicine and health protection for Government employees which further increases activities in clinical medicine.

Additional legislation enacted in 1948, has given new impetus to research programs in mental health, heart

disease, and dentistry. The creation of the National Institute of Mental Health, the National Heart Institute, and the National Dental Institute provides funds and facilities for laboratory research, clinical research and demonstration studies in these fields.

Completion of the Memorial Laboratory as a part of the National Institutes of Health places at the disposal of the medical officer the most modern aids and safeguards for research in virus and infectious diseases.

Service in the Commissioned Corps offers the physician an interesting, dignified, and challenging career in his chosen profession, opportunity for steady advancement, and security in his period of retirement. An officer is promoted to a higher grade, with corresponding increase in salary, in accordance with certain rules; every 3 years he also receives a 5 percent increase in base pay, regardless of previous promotions. In addition to his pay he receives certain allowances, which are increased if he has dependents. He is entitled to generous annual and sick leave, medical care and hospitalization for himself and his family in Service hospitals, and allowances for uniforms, foreign service, travel, and transportation of household goods. Officers who serve at the National Leprosarium receive a pay increase.

Table 1.—*Estimate of Earnings—Public Health Service Medical Officer with two dependents*

| Grade | Base pay | Medical dental procurement pay ¹ | Allowance ² | Total direct payments | Retirement benefits for age ³ | Retirement disability ⁴ | Death gratuity ⁵ | Health insurance ⁶ | Tax differential ⁷ | Total pay and benefits ⁸ |
|-----------------------------|--------------|---|------------------------|-----------------------|--|------------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------------|
| Assistant surgeon----- | \$2, 400. 00 | \$1, 200. 00 | \$1, 411. 00 | \$5, 011. 00 | \$1, 050. 00 | \$45. 90 | \$13. 40 | \$102. 00 | \$198. 00 | \$6, 420. 30 |
| Senior assistant surgeon--- | 2, 898. 00 | 1, 200. 00 | 1, 591. 00 | 5, 689. 00 | 1, 050. 00 | 59. 05 | 16. 97 | 102. 00 | 232. 80 | 7, 149. 82 |
| Surgeon----- | 3, 795. 00 | 1, 200. 00 | 2, 026. 50 | 7, 021. 50 | 1, 050. 00 | 100. 24 | 27. 58 | 102. 00 | 321. 60 | 8, 622. 92 |
| Senior surgeon----- | 4, 812. 00 | 1, 200. 00 | 2, 206. 50 | 8, 218. 50 | 1, 050. 00 | 157. 97 | 42. 77 | 102. 00 | 340. 80 | 9, 912. 04 |
| Medical director----- | 5, 560. 00 | 1, 200. 00 | 1, 951. 00 | 8, 651. 00 | 1, 050. 00 | 232. 54 | 63. 82 | 102. 00 | 340. 80 | 10, 440. 16 |

¹ Regular officers and Reserve officers accepted for active duty for one year or more, on duty and appointed between Sept. 1, 1947, and Aug. 31, 1952. This payment limited to 30 years or total of \$36,000.

² Includes allowances for rent and subsistence.

³ Based on figures obtained from the Massachusetts Mutual and John Hancock life insurance companies. To purchase outright at age 64 a life annuity comparable to PHS retirement requires \$60,000. Such an annuity purchased at age 30 requires \$35,700 or 34 payments of \$1,050. This is the figure shown in the table above. The difference between \$60,000 and \$35,700 represents the amount of interest on the annual premiums and deductions made possible by the fact that a certain number of policy holders will die before the age of 64. A policy taken out at an age earlier than 30 would of course have a lower annual premium.

⁴ Cost of disability policy which pays benefit equal to PHS disability retirement benefit. Based on figures from Acacia National Life Insurance Co.

⁵ Cost of insurance policy which pays at death an amount equal to 6 months of PHS service. Based on figures from Acacia National Life Insurance Co.

⁶ The cost of a civilian health insurance policy providing benefits similar to those made available to a PHS officer. (Group Health Association, Inc., figures as of Dec. 1, 1946.) There is no civilian policy which offers all the benefits available to a Public Health Service officer.

⁷ Represents income tax differential between an officer's salary and an equivalent civilian salary. Figures are based on current federal tax rates with deductions for subsistence and quarters. Special wartime military exemption terminates on Jan. 1, 1949.

⁸ This table is not altogether complete because commissary privileges, uniform and travel allowances, etc., are not included.

May he choose his field?

In the Public Health Service, an agency with many varied activities, the medical man has a wide field from which to choose his life work. Every effort is made to assign him to duties in the areas of his greatest interests and abilities.

Is he concerned with hospital activities and with medical or surgical care of individual patients? Does he prefer to work with State or community health programs? Does he desire to specialize in internal medicine? Is he interested in programs for Nation-wide control of venereal disease, malaria, tuberculosis, and other communicable diseases? Does work in mental hygiene attract him? Quarantine? Narcotics? Leprosy? Or does he wish to concentrate on research and help conquer such conditions as heart disease, cancer, arthritis, poliomyelitis, the rickettsial diseases?

Whatever his field, the Service will give consideration to his choice and, so far as possible, offer him an assignment in his field of interest. If he does well, he will be given special training and will then be permanently assigned to duty in line with his talents.

Officers are encouraged to join scientific societies, attend scientific meetings and to present papers reporting their work. They have opportunity to write both for official Service publications, such as Public Health Reports and The Journal of the National Cancer Institute, and for outside scientific and professional journals.



H*ow is he appointed?*

Appointments to the Public Health Service are now being made in three categories: Interns, both commissioned and noncommissioned; medical officers in the Reserve Corps; and medical officers in the Regular Corps in the grades of Assistant Surgeon and Senior Assistant Surgeon.

Regular Corps appointments are made by the President of the United States and must be confirmed by the Senate. Appointments to the Reserve Corps do not require Senate confirmation. Medical officers must be at least 21 years old, graduates of accredited medical schools, and citizens of the United States. All candidates must pass a physical examination, showing that they are free of any serious physical or mental defects that might interfere with the performance of duty or lead to early retirement.

For appointment to the Regular Corps, a candidate for the grade of Assistant Surgeon must present evidence of general suitability, including professional and personal fitness. He must also have had at least 7 years educational training and professional experience exclusive of high school. Each candidate is required to take an oral and a written examination covering professional subjects in his field.

To be eligible for appointment to the Regular Corps in the grade of Senior Assistant Surgeon, the candidate must meet all the requirements for appointment in the grade of Assistant Surgeon, and must have completed an additional 3 years or a total of 10 years of postgraduate professional training or experience. Candidates for this grade are also required to take oral and written examinations in subjects relating to the profession.

An applicant for appointment in the Reserve Corps may be required to present himself before a board or a designated representative of the Public Health Service. The professional examination consists of an evaluation by the board of the evidence submitted by the candidate as to professional education, training, and experience, including any published professional articles written by the applicant.



THE PRESIDENT OF THE UNITED STATES OF AMERICA

To all who shall see these presents, greeting:

Know All, That whereas special trust and confidence in the integrity, diligence and discretion of _____, have manifested by _____, and with the advice and consent of the Senate do appoint _____ in the regular Corps of the PUBLIC HEALTH SERVICE, to rank as such from the _____ day of _____, 19____, and do authorize and empower _____ according to law to discharge _____ duty as commissioned officer, and to have and to hold the said office with all the rights and emoluments thereunto legally appertaining unto _____ during the pleasure of the President of the United States.

Done at the City of Washington, this _____ day of _____ in the year of our Lord one thousand nine hundred and _____ and of the Independence of the United States of America the one hundred and _____

By direction of the President

Federal Security Administration



What opportunities does the Service offer in Clinical Medicine?

The Hospital Division of the Public Health Service operates 24 Marine Hospitals for beneficiaries designated by Congress. Twenty of these are general hospitals where all types of illness are diagnosed and treated; two are tuberculosis hospitals; one is devoted to the study and treatment of leprosy; and one is essentially a psychiatric hospital. The Mental Hygiene Division of the Service operates two large psychiatric hospitals devoted chiefly to the care of chronic patients and the problems of drug addiction. Medical personnel for the 1,000-bed hospital in the Medical Center for Federal Prisoners at Springfield, Mo., and for 20 Federal penitentiaries, reformatories, and correctional institutions are also provided by the Public Health Service. Special programs of research in psychiatry have been or are to be established in a number of these institutions afford-

ing unusual opportunities for training and experience in this field. Medical services are also furnished to the United States Coast Guard by the assignment of officers to the larger land installations and patrol vessels.

The constant flow of patients through Service hospitals presents an extraordinary variety of cases, including tropical diseases. There is opportunity for intensive work among many groups of patients in considerably greater numbers than are generally available in ordinary civilian practice. Clinical research is conducted in a variety of fields on a number of interesting problems. Recent achievements include the development of continuous caudal analgesia, a new method for fusion of ruptured intervertebral discs, non-surgical treatment of ruptured peptic ulcers, and continual clinical research in the use of new drugs and biologics especially in the field of antibiotics and antimalarial drugs. In the latter field, the successful trial of the sulfone drugs in the treatment of leprosy has brought hope to the victims of this disease for the first time in medical history.

Work in the Service hospitals, provides excellent career possibilities for those interested in work in clinical medicine with opportunity for exceptional training and experience for all physicians. Staff positions in Service hospitals com-

Table 2.—Summary of hospital data for U. S. Marine and Public Health Service hospitals

| Location | Bed capacity | In-patient admissions, July 1, 1946–June 30, 1947 | Out-patient visits, July 1, 1946–June 30, 1947 |
|-------------------------------------|--------------|---|--|
| Total..... | 10, 116 | 88, 237 | 904, 150 |
| GENERAL—MARINE | | | |
| Staten Island..... | 1, 050 | 14, 138 | 128, 574 |
| San Francisco..... | 567 | 6, 418 | 109, 018 |
| Seattle..... | 515 | 6, 224 | 102, 969 |
| New Orleans..... | 572 | 6, 850 | 82, 910 |
| Baltimore..... | 552 | 8, 388 | 104, 982 |
| Boston..... | 366 | 4, 291 | 47, 770 |
| Norfolk..... | 419 | 5, 601 | 57, 354 |
| Chicago..... | 293 | 2, 562 | 25, 341 |
| Cleveland..... | 292 | 3, 407 | 30, 662 |
| Detroit..... | 271 | 2, 871 | 22, 900 |
| Galveston..... | 202 | 3, 703 | 30, 311 |
| Mobile..... | 195 | 2, 463 | 30, 423 |
| Savannah..... | 191 | 2, 197 | 20, 986 |
| Kirkwood..... | 163 | 1, 526 | 12, 859 |
| Memphis..... | 168 | 1, 692 | 10, 866 |
| Vineyard Haven..... | 39 | 355 | 3, 572 |
| San Juan, P. R..... | 87 | 1, 400 | 15, 250 |
| Portland, Maine..... | 90 | 1, 466 | 11, 520 |
| Buffalo..... | 76 | 1, 490 | 13, 496 |
| Pittsburgh..... | 79 | 1, 110 | 13, 063 |
| SPECIAL—MARINE | | | |
| Tuberculosis: | | | |
| Neponsit Beach, Long Island, N. Y.. | 300 | 575 | 1, 917 |
| Fort Stanton, N. Mex..... | 237 | 361 | 6, 121 |
| Leprosy: Carville, La..... | 538 | 452 | 5, 648 |
| Psychiatric: Ellis Island..... | 454 | 4, 449 | 15, 638 |
| PUBLIC HEALTH SERVICE | | | |
| Psychiatric: | | | |
| Lexington..... | 1, 400 | 2, 309 | None |
| Fort Worth..... | 1, 000 | 1, 939 | None |

¹ 200 neuropsych., 254 medical beds.

pare favorably with similar positions in outstanding civilian hospitals, including teaching hospitals associated with medical schools, as most of the larger Marine Hospitals are associated with one or more nearby medical schools.

Eleven of the Marine Hospitals are approved for internships. Twelve hospitals, including the two operated by the Mental Hygiene Division, are approved for residency training in one or more of the following specialties; general surgery, internal medicine, orthopedic surgery, urology, anesthesiology, dermatology and syphilology, ophthalmology and otolaryngology, pathology, radiology, and neuropsychiatry. Internships are open to graduates of approved medical schools, and residencies are open to applicants from outside the Service as well as to Service officers. Those appointed from outside to internship or residency training are eligible for a commission in the Reserve Corps of the Service. Following completion of residency training, Service officers ordinarily remain in their clinical fields, and physicians are selected from this group for staff positions in the Service's teaching hospitals. In addition to the fields covered by formal residency training, experience in the study and treatment of leprosy and tuberculosis can be obtained at the special Marine Hospitals.

A number of the hospitals are also used as training and treatment centers for venereal diseases.

The location, size, and patient load of each of the Service hospitals are shown in table 2. Hospitals approved for internships are shown below in table 3, and table 4 lists those approved for residency training.

Table 3.—*Approved internships U. S. Marine hospitals*

| Hospital | Number of internships | |
|---------------------|-----------------------|--------------|
| | 1 year rotating | 1 year mixed |
| Staten Island | 30 | |
| San Francisco | 12 | |
| Seattle | 12 | |
| New Orleans | 12 | |
| Baltimore | 12 | |
| Boston | | 9 |
| Norfolk | 10 | |
| Chicago | 6 | |
| Cleveland | 6 | |
| Detroit | 6 | |
| Galveston | 6 | |
| Total | 112 | 9 |
| Grand total | 121 | |



What opportunities does the Service offer in Research?

Furthering research in all phases of medicine is the aim of the National Institutes of Health, the research center of the Public Health Service. The Institutes, located in Bethesda, Md., include the National Cancer Institute; the Experimental Biology and Medicine Institute; the Divisions of Infectious Diseases, Tropical Diseases, and Research Grants and Fellowships; and the Laboratories of Biologics Control and Physical Biology. Special laboratories are located in other parts of the country. The Rocky Mountain Laboratory at Hamilton, Mont., is a part of the Division of Infectious Diseases, where, at present, spotted fever, typhus and yellow fever vaccines are manufactured. Plans are under way for the expansion of the research program of the Rocky Mountain Laboratory, and for the extension of the entire program of basic research in diseases in nature which are communicable to man. The Office of Malarial Investigation at Memphis, Tenn., and a sub-



station at Columbia, S. C., are primarily engaged in the study of malaria and mosquitoes that transmit malaria. A new field station has recently been established in Guatemala, for further research and drug evaluation studies in malaria.

Research grants and fellowships are awarded to hospitals, universities, and to individual scientists for special studies in a number of different fields, including cancer, cardiovascular diseases, mental health, surgery, and gerontology.

In recent years research has included work in antibiotics; synthesis of new drugs for treatment of tuberculosis and influenza; mumps vaccine; homologous serum jaundice; narcotics; nutrition; tropical diseases; the biological effects of neutron bombardment; Q fever and other rickettsial diseases.

The National Cancer Institute is making a comprehensive and inclusive approach to the problem of cancer. Cancer research is carried on in many fields, including biochemistry, biophysics, chemotherapy, endocrinology, genetics and other branches of biology, cancer epidemiology, and statistics. Research activities in cancer are carried on by Service personnel at branch laboratories throughout the country as well as at the Cancer Institute in Bethesda.



Research in all fields will be considerably expanded by the recent authorization of the new 500-bed Clinical Center, to be constructed as part of the National Institutes of Health. (Illustration—back cover.) The 13-story hospital-laboratory will house the newly created National Heart Institute, the National Institute of Mental Health, and will include additional facilities for the National Cancer Institute. The supplementary facilities will be used chiefly for investigation and treatment of the major degenerative diseases—cancer, heart disease, dental diseases, and mental disorders. Plans for construction of the new Clinical Center incorporate hospital facilities of the most modern design and laboratories with a wide range of flexibility for study in the biological and physical sciences.

Patients from all parts of the country will be referred to the new Center for study and treatment of the particular diseases under investigation. The integration of fundamental and clinical research, made possible by the unusual design of the structure, the special equipment, and the research teams, will give unique postgraduate opportunities to other physicians and scientists, as well as members of the regular staff.





What opportunities does the Service offer in Public Health Work?

In addition to the operation of hospitals and the extensive research program of the National Institutes of Health, the Public Health Service also engages in a wide variety of public health activities in cooperation with State and local health departments. Many of the State and local health programs have been made possible through Federal grant-in-aid funds allotted to the States. Supplementary personnel, equipment and consultative services are also provided to State and local health organizations by the Service upon request.

The Public Health Service's share in the local-State-Federal program is administered chiefly through its district offices. Each district staff includes physicians trained in public health administration, and in special fields, such as tuberculosis and venereal disease control, mental hygiene, and cancer control. District personnel assist State and local health agencies in developing sound public health programs and in solving health problems as they arise.

Occasionally public health physicians are loaned to States to serve as State health commissioners, as directors of divisions within State health departments, or as administrators of local health departments. Physicians in the Service are thus afforded the opportunity for practical experience in working out programs for operating health departments and in helping them to solve existing problems. District activities cover Alaska, Hawaii, Puerto Rico, and the Virgin Islands as well as continental United States.

Control programs in new fields are being developed continually by the Service. Such programs are generally initiated in the States through demonstration units established in cooperation with local health departments. As control technics are developed and perfected, additional units are set up to serve as training centers for medical officers. At the completion of the training period, these officers are assigned to district office staffs as consultants to aid the States in developing programs in these special fields. Nation-wide control programs now operating in many fields have been established in this manner.

Among the current programs, those in diabetes, heart disease, nutrition and dentistry are now in the demonstration stage. Objectives of these demonstrations are: to



develop mass survey technics for discovering incipient cases of cardiac disease, diabetes, and malnutrition; to prevent dental caries; and to develop new methods for early and more conclusive diagnosis of these diseases. Demonstrations, sponsored by the service, are under way in various parts of the country in cooperation with State and local health departments.

Assistance in the field of industrial hygiene is rendered to the States by the Service on request in several ways: by the allocation of Federal grant-in-aid funds for developing industrial hygiene programs within the State; by the provision of consultative, informational and/or laboratory services; and by cooperative investigations of occupational health hazards in industry through surveys of working conditions and workers' health.

In the field of mental hygiene the Service is developing, in cooperation with the States, a program which includes the improvement of out-patient and in-patient care of the mentally ill; training of personnel; research into the causes, diagnosis, treatment, and prevention of mental disorders; and dissemination of information on mental health.

Programs in cancer control, made possible by grants-in-aid, include the establishment of centers for cancer detec-

tion; services for prevention, diagnosis, and treatment; educational programs for the general public and professional groups; surveys of facilities for the care of chronic cancer cases; and training programs for public health and professional workers. Traineeships are also awarded by the Service through which physicians may obtain training in the diagnosis and treatment of cancer at hospitals throughout the United States.

Venereal disease control continues to be a major activity of the Public Health Service. The Service cooperates with State and local health departments and other agencies in mass case-finding demonstrations, rapid treatment centers, therapy evaluation, and programs of professional training.

The collaboration of the Service with State and local health organizations in establishing control programs in malaria, typhus, and plague have resulted in unprecedented reductions in the incidence of these diseases.

The Service's Communicable Disease Center at Atlanta, Ga., offers prospective medical officers experience in field epidemiology, entomology, diagnostic laboratory medicine, and in the development of public health training technics. The Center has broad responsibilities in the investigation and control of communicable diseases. It translates the

results of basic communicable disease research into applied control practices, tests them under various field conditions, and trains State and local health personnel in their utilization. National trends in the incidence and geographic distribution of these diseases are continuously analyzed, and special field studies are conducted on endemic diseases.

The Center is the official disaster aid agency of the Public Health Service. In this capacity it assists State and local organizations in investigating and controlling epidemic outbreaks of disease, and in achieving public health and sanitary rehabilitation following major disasters. Research activities of the Center include continuous experimentation to improve the sensitivity and specificity of diagnostic and other biologic materials used in parasitology, bacteriology, rickettsiology, and virology. Audio-visual aids are produced by the Center, and practical field training programs for health officers and other public health workers are being developed in regional training centers.

The foreign and domestic quarantine program includes guarding the borders of the country against introduction of plague, cholera, yellow fever, smallpox and other diseases from foreign infected areas, and observing the maintenance of proper sanitary methods on interstate carriers.





*What are some of the
achievements of
the Public Health Service?*

The Public Health Service has made important contributions in many fields, including control of communicable diseases, advancement of industrial hygiene, application of quarantine regulations and the development of new agents and techniques in chemotherapy.

Since the inception of the National Institutes of Health, 60 years ago, the Service through research has contributed substantially and continuously to knowledge of disease. Some of the achievements of Public Health Service scientists include: the first bacterial diagnosis of cholera in the Western Hemisphere, the discovery that pellagra is the result of a

Dr. Joseph Goldberger

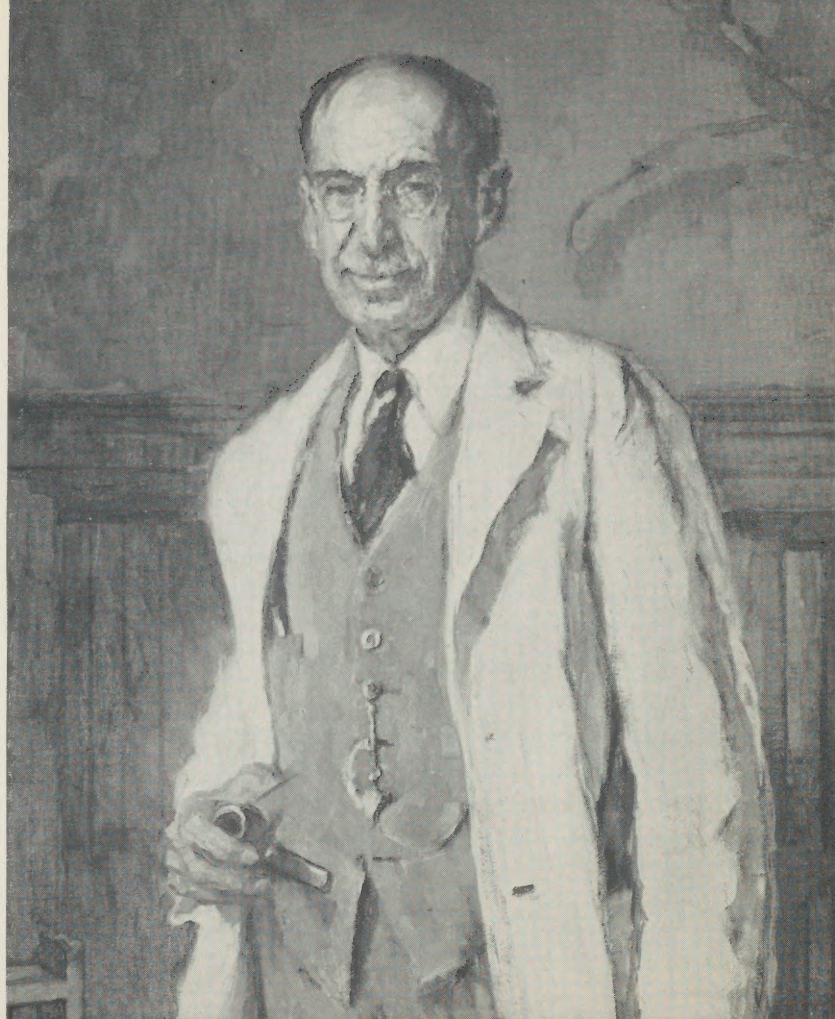
vitamin deficiency, the first identification of brucellosis, the discovery that typhus fever is transmitted by fleas, the first isolation of the causative virus of epidemic encephalitis, the development of an effective vaccine against Rocky Mountain spotted fever, and the first demonstration of the relation of fluorides in drinking water to the incidence of dental caries.

Experimental gastro-intestinal cancer in animals was first produced by research workers at the National Cancer Institute in 1940. Three years later an Institute scientist first transformed normal mammalian cells—tissue cultures grown in flasks—into cancer cells that would invade and kill animals of the same strain as that from which the cells originally came. The list of other research accomplishments at the National Cancer Institute is a long and valued one.

Studies conducted by the Service of the origin and prevalence of typhoid fever provide the classic basis for our modern knowledge of the epidemiology and control of this disease. Rickettsialpox, a newly discovered disease which was epidemic in a New York City housing development in



Dr. M. J. Rosenau



1946, was first identified by Public Health Service officers. Physicians at the Public Health Service Hospital at Carville, La., using the new drugs—promin, diasone, and prominazole—in the treatment of patients, are recording the first apparently complete cures in the thousands of years of struggle against leprosy. Contributions of the Service to the control of malaria and murine typhus have already been mentioned.

Service research on the relation of milk to public health has resulted in widespread measures for the improvement of milk supplies and corresponding reduction of diseases caused by impure milk. Many States have adopted the Service's uniform codes and ordinances regulating sanitation and food handling. Its recommended standards have also been generally adopted by authorities engaged in water pollution investigation.

Officers numbered among distinguished investigators now on active duty in the Public Health Service are: Dr. Charles A. Armstrong, noted for his work in psittacosis, tetanus, poliomyelitis, and other infectious diseases; Dr. Rolla E. Dyer, for his research in Rocky Mountain spotted fever, typhus, and the rickettsial diseases; Dr. Harry Eagle, for

his outstanding fundamental studies in syphilology; Dr. John F. Mahoney, who first applied penicillin in the treatment of syphilis; Dr. W. H. Sebrell, who with Dr. R. E. Butler first described ariboflavinosis; Dr. R. R. Spencer, discoverer of a vaccine for Rocky Mountain spotted fever; Dr. Norman Topping, noted for his work on cold vaccines, for the development of a typhus vaccine and, in collaboration with Dr. Robert J. Huebner, for his investigations in rickettsialpox, and Dr. Robert A. Hingson, for his studies in caudal analgesia and for the development of the hypodermic spray for treatment of venereal disease.

Recently retired from the Service are Miss Alice Evans, a noted bacteriologist, and Dr. Edward Francis, distinguished for his work in filariasis, undulant and relapsing fevers, and tularemia. Other former officers in the Service include Dr. Joseph Goldberger, called "a giant in his day" because of his outstanding research in the cause and cure of pellagra, Dr. M. J. Rosenau, a pioneer in preventive medicine and public health, Dr. Victor Heiser, author of "An American Doctor's Odyssey", Dr. Kenneth F. Maxcy, outstanding epidemiologist and Dr. Harry Mustard, eminent public health administrator.

For further information, write—

The Surgeon General
U. S. Public Health Service
Washington 25, D. C.

*New Clinical Center
National Institutes of Health
Bethesda, Maryland*

